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MAYBE THE BEST WAY FOR SCIENCE AND RELIGION TO COEXIST IS  
INDEPENDENTLY—EACH PROVIDING POWERFUL ANSWERS TO DISTINCT SETS  
OF QUESTIONS, NEITHER EXPECTED TO FULLY ACCOMMODATE THE OTHER.  
MAYBE THE DIFFERENCES BETWEEN THE TWO ARE SIMPLY IRRECONCILABLE.

## OF THE WORLDS

BY GEORGE JOHNSON

The daddy longlegs clinging vertically to my bathroom wall is a marvel of airy symmetry, its tiny head perched delicately at the center of eight arching limbs. A moment later, struck by the back of my hand, it lies crumpled on the floor. I'm sorry, but I don't like spiders in the house.

In fact, as I learn the next morning, it wasn't a spider I killed, an *Araneida*, but a member of a parallel order, *Phalangida*—one that lives by *eating* spiders, including the annoying little ones that bite. My reflexive action was stupidly self-defeating. But my remorse runs deeper. I feel guilty for destroying this elegant arrangement of carbon molecules, and I can't quite understand why. I don't feel a thing when I pull horsetail and cheat grass from our meadow or massacre a swarm of box elder beetles with laundry soap. I am glad when the cats kill a grasshopper or a mouse; indifferent if their prey is a sparrow; sad if it is a hummingbird. There is no definable moral calculus here. All organisms, I know, are nothing more or less than intricate, intertwined chemistry, products of an evolutionary process that is purposeless and blind. Yet I find myself behaving sometimes as though the world were crawling with spirits. I, the materialist, am making godlike judgments as to what has a "soul," whatever that means, and what deserves to live or die.

A believer might say I am wrestling with something "spiritual." I cringe when I hear the word, coming, with all its musty connotations, from the Latin *spiritus*, meaning "of breathing"

or "of wind." People once thought invisible beings swooped through the trees, bending the branches, propelling leaves and dust. They believed the rhythmic inhalation of these spirits—*respiration*—animated the body (from the Greek *anemos*, which also means wind).

We know better now, but the word refuses to go away. "Spiritual" has come to mean the opposite of material: incorporeal, undetectable, unmeasurable—and so, as far as science is concerned, unreal.

These thoughts have come to occupy me after my return from a summer journalism fellowship at Cambridge University devoted to the topic of reconciling science and religion—an idea that has puzzled me since I came across it years ago at a similarly inspired event in Berkeley, California. Science is about what you can prove. Religion is about what you believe. It follows that there can be many different religions, but only one science. So what is there to reconcile?

Science can, of course, study religion, using neuroscience and evolutionary theory to try to explain why people hold religious beliefs. Geology and archeology can refute the fundamentalist teaching that the Earth was created just a few thousand years ago or the Pueblo Indian belief that people emerged fully formed from a hole in the ground somewhere near Española, New Mexico. Reconciliation comes as science subsumes religion, as it steadily has been doing for hundreds of years.



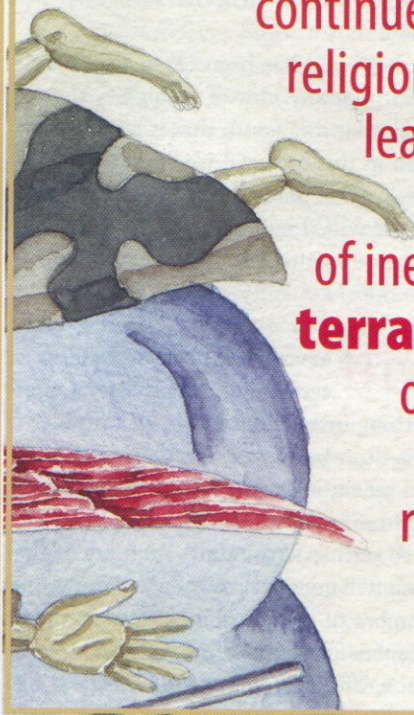
Early last summer, Cardinal Christoph

Schönborn, the archbishop of Vienna, wrote an opinion piece for *The New York Times*, in which he drew a stark line between modern evolutionary theory and Roman Catholicism. For years, scientists and educators have tried to claim the Vatican as an ally in the fight against fundamentalist Protestant creationists. Pope John Paul II once said that evolution is “more than a hypothesis,” and his successor, Pope Benedict XVI, seems to concur with the notion of a “common ancestry” for living things. But as the archbishop suggested, the evolutionists’ wished-for alliance is fundamentally absurd.

Catholics are taught to believe that the moment an ovum—a cellular arrangement of carboniferous molecules—is penetrated by another molecular structure, a sperm, the combination instantly becomes imbued with the life force. Inspired. If you accept that premise, the rest logically follows: Eliminating the tiniest cluster of dividing cells is murder; preventing fertilization through artificial means is countermanding the will of God. With uncompromising consistency, the church also opposes the death penalty as well as Third World population control. Given all that, Catholicism could not possibly accept the development of life as a climb up Mount Improbable.

Schönborn clarified the church’s position: “Evolution in the sense of common ancestry might be true, but evolution in the neo-Darwinian sense—an unguided, unplanned process of random variation and natural selection—is not.” Life must be led

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by seeing-eye spirits—the Aristotelian “final cause” that preoccupied the Scholastics. The Great Intender.

Last fall, in a catechetical lecture at St. Stephan’s Cathedral, he went further, comparing scientific materialism with the Gnostic heresy, the belief that “the world, above all matter, was the product of an ‘accident.’”

“It is precisely because the world has been created that early Christendom emphasizes without any hint of ambiguity that matter too has been created, that it is good, that it is meaningful,” Schönborn said. “Man in this material world has not fallen into a region of darkness, as the Gnosis teaches. ... Rather, he partakes of creation. He is willed by God. ...”

You can be a materialist or a spiritualist. Try as you might, you cannot consistently be both.

**Science will** never succeed in explaining everything. Metaphysical questions—Why is there something instead of nothing? What was it like before space and time?—can be answered only by stepping outside of the universe and seeing it whole. We are embedded within the system we seek to explain and subject to its laws. Naturally, there are limits to our understanding. As more of the universe is explored, science will continue to eclipse religion, but it will leave behind a penumbra of inexplicability, terra incognita over which a thousand religions can endlessly contend.

In his *Summa Theologica*, Thomas Aquinas, the greatest of the Scholastics, tried to distinguish between these two

kinds of knowledge: natural philosophy (what we now call science) and theology. Each begins with a set of premises—things taken to be self-evident—and uses logic to explore the consequences. But he recognized a fundamental difference between the two. In science, the premises come from observations about the material world. Theology begins instead with doctrines—spiritual revelations and pronouncements from books.

And there, just short of clarity, he stopped cold. As a loyal Catholic, Aquinas was bound by the postulates of what he considered the one true faith. There could be no conflict between science and religion. We are children of a single God; our searching can lead us only to the light. Like Pope John Paul II, he absorbed science, limited in scope, into his own particular religion.

Science is far from infallible. Our senses can be fooled, experiments can conflict. But there are universally accepted means for resolving differences, for converging on a consensus. What Aquinas and the rest of the Scholastics never came to grips with is what to do about all those different theologies, each consistent unto itself, each built on a different rock, yet with no way—no scientific method—to test one against the other.

Your beliefs are true because you believe they are true, a comforting and dangerous idea that a thousand years after the Crusades still leads to killings like the ones occurring every day in Israel and Iraq. People doing what the spirits tell them. Just after the Cambridge conference, Muslim terrorists blew up the London subway, a coda to 9/11, a prelude to God knows what.

One day toward the end of the seminars, I walked to the Wren Library at Trinity College to see a painting I had been curious about: *An Allegorical Monument to Sir Isaac Newton*. Painted in the late 1720s by Giovanni Battista Pittoni, it shows the interior of an imaginary temple honoring the great scientist. The scene is a fantastically silly mixture of science with classical and Christian mythology: stone statues representing Mathematics and Truth, an angel leading Minerva, goddess of Wisdom, followed by the elaborately robed Muses, up the stairs toward Newton's urn. But these are details you notice later. What immediately catches the eye is the intense beam of light shooting through a hole near the ceiling, bouncing off a mirror, and passing through a prism where it fans out into a spectrum. Pittoni got the order of the colors wrong, but he captured the beauty of Newton's discovery: "Light is composed of differently refrangible rays."

Newton studied and taught at Trinity. Walking in his footsteps, I left the library and crossed Nevile's Court, then the Great Court, stopping at the chapel. There, in back, his statue stood, gazing stonily through a passage in the organ screen and into the sanctuary. The placement is not as incongruous as it might seem. When he wasn't playing with prisms and theorizing about gravity, Newton dabbled in biblical interpretation, trying to correlate the prophecies of Daniel with those in Revelation. Atheism, he once wrote, is "senseless & odious," particularly the notion that our existence is a cosmic fluke:

*Can it be by accident that all birds beasts & men have their right side & left side alike shaped (except in their bowells) & just two eyes & no more on either side the face & just two ears on either side the head & a nose with two holes & no more between the eyes & one mouth under the nose & either two fore leggs or two wings or two arms on the sholders & two leggs on the hipps one on either side & no more? Whence arises this uniformity in all their outward shapes but from the counsel & contrivance of an Author?*

Sounding like a modern creationist, he marveled at the perfect design of the eye:

*Did blind chance know that there was light & what was its refraction & fit the eys of all creatures after the most curious manner to make use of it?*

Newton was a man of his age, the seventeenth century, when religion and science were still as tangled as the themes in Pittoni's painting. Yet he sensed that there was a difference—"That religion & Philosophy are to be preserved distinct," as he put it, going a little further than Aquinas. "We are not to introduce divine revelations into Philosophy, nor philosophical opinions into religion."

That is the point where science begins: when that which can be proved is separated from that which can only be talked about. ⑥